THE INTER-MOUNTAIN FARMER AND RANCHMAN

VOL. I. NO. 4. SALT LAKE CITY, UTAH, TUESDAY MORNING, MARCH 4, 1902. PRICE, FIVE CENTS.

FOWL-RAISING AND EGG PRODUCTION.

…conditions and circumstances vary … different people who do so intend … I will assume that accommodation is to be provided, and will … remarks to chickens ex… If those who have an … already find that their … requirements … good, they will no doubt be … The land to … poultry-yards … should not be … enough to grow grass, … alfalfa. The … south, ex… a multiple of … that many feet … The house … lined with building … drafts, through … but be provided … the south side, of … the sill of which … foot above … by wire netting … The space allowed for … admit of detailed … the interior arrange… they are of vital im… but after the building is … how to stock … already some … not be … the advice following, … broody hen … But to the … Don't. Do not … other to … for if … and … killed by … animals and … You can't get … or powders; … short of … Buy an … and when you … Incuba… and prices. … Order … breeder; … man; … to raise … chick… everything. Give your … you get … This … from thor… chickens … don't … practice … system … will be … under the … What … to raise

for eggs, market and fancy, you have the choice of but two varieties, viz., the white Plymouth Rock and the white Wyandotte. For market they must be white-feathered, to avoid the black pin feathers. Both breeds are good winter layers and easily broken up when they get broody. Your eggs having arrived, get the incubator running for a day, and then put in the eggs; or if you use hens, put them on the nest with some nest eggs, to test their staying qualities. Those that are all right give good eggs instead of the nest eggs. If the eggs were good they will hatch in from twenty to twenty-two days. Let them stay where they are another day, but remove eggshells. Test unhatched eggs by floating them and remove the dead. When they are a day or two old you can begin to feed them. Those hatched in an incubator must be raised in brooder. The best feed I have found to be is steel-cut oats, hard-boiled eggs, chopped fine, also cracked corn and finally wheat, also sour milk, heated to make it curdle, and then drained off to make it quite dry. Pure cool water must always be accessible to them; also very coarse sand, or this manufactured "mica crystal grit." Dried, finely-crushed eggshell is also very good. Whenever the weather permits, let them out on the ground; they need greens, but not before the grass has dried off. Don't let them run at large. Keep them in inclosed yards. Get a gun for stray cats, dogs and beasts and birds of prey. As soon as your chicks are old enough to distinguish, separate the cockerels from the pullets. Distribute the pullets, ten in each pen; get legbands and trapnests of the latter, three in each pen. This is absolutely necessary if you want to make progress in the prolificacy of your layers; you will also need some books to keep an account. After you have tested your layers, for one year, you will find 2 per cent will not lay at all; 5 per cent a couple dozen each; 10 per cent lay just enough to pay for their feed and the rest all the way from 60 to 160 eggs. To save you from any further loss you sell 17 per cent or 20 per cent of your stock, which constitute your poor layers; this saving is certainly worth looking after, but does not constitute the only, not even the larger, advantage of using legbands and trapnests. After having tested and discovered your best layers, use the eggs from the very best for raising young stock, what you especially want is the cockerels raised from eggs from the best layers; they are the power behind the throne; for they transmit the prolificacy of their mother to their offspring. It is the only way to increase the egg yield of chickens and the only way to make poultry culture pay well. A. R. KOHNKE.

Salt Lake City, February, 1902.

The Limed Egg Industry.

…put an egg in vinegar, and … will eat into the shell in so … that it will become soft … like the … on a … said the grocer, "but al… the sitting boxes of saltpeter, … away the staves … which were used in the … of egg … and … of those who handled … the only effect it had … was to harden the shell, … and make it absolutely … to the air. As long as that … prevailed, the interior … of course, remained un… and the egg was just as good … it was taken from its bath … it came out of it. … after a while, aban… receptacles … were made of brick … lined with cement. At first … the farmer who limed the eggs … his vat in the cellar. … who made egg-raising … took it up, and his … eggs or … next to his home, the … of his brewery. Ten … the country surrounding this … with mammoth egg sites, … our market with … the market … These sites … square and … to keep their … Limed … important arti… and thousands of … were shipped … They were known in … "Yankee winter eggs," … and knocked this … discovering a … that maintained … of the fresh egg so near … when the Germans started it … that the American … play a rather in… the German. … foreign mar… from eggs, but … home market … the tariff and … industry in mountain… the coming of compressed air … of cold storage has … the fresh egg away … and where … of dozens of limed … years ago there … Cold … as long … of that storage … temperature … it will … hold them … are not … and the period … will be short when … them from the … the storage … months old is … New York Sun.

Poultry Figures.

… find something statis… In one of the Chicago … there was a queer … suggesting you … and looked out … and saw every four … a rooster sitting … the train all the … you would prob… seen a good … when you got … the hens in the country concluded to watch the trains go by at the same time there would be enough to camp by the side of every railroad track in the country at intervals of four feet. You couldn't take a train anywhere without seeing a different hen every four feet if you looked out of the window. That is because there are 2[illegible],000,000 chickens in the country and 191,[illegible] miles of railroad.

Each of these chickens laid on an average thirty-eight eggs a year. The average does not seem high to city people, but it must be remembered that there are a good many chickens too young and too old to lay, while some are setting and others are males.

That made 10,000,000,000 eggs. The exact figures for the Department of Agriculture in 1900 are 10,000,[illegible].

This does not count those consumed before getting to market.

If everybody in the United States, under a radical system of communistic distribution, were to get his fair share of chickens, each person would get three of the birds and a lion's share of a fourth. He would get 3.72 chickens.

In the whole of last year did you eat 125 eggs? That was the figure for the average American.

The lowest figure for eggs was 15½ cents a dozen in 1900. That was the minimum market price for exports.

Eggs are light affairs, weighing only about two ounces apiece. Some weigh as little as an ounce and a half. Minorca eggs are the heaviest, being about five to the pound, while Wyandotte and Brahma eggs run seven or eight to the pound.

Probably all the eggs laid in the United States last year weighed about 653,000 tons.

This is about four times the total tonnage of the American navy, counting in even older ships.—Farm, Field and Fireside.

Hint to Dealers.

St. George, Utah, Feb. 26, 1902.

Inter-Mountain Farmer and Ranchman—I write to ask if you can tell me where I can get some thoroughbred poultry; also the prices on poultry and eggs, and what it will cost to deliver them to Modena, Utah, or to St. George, Utah? F. B. DODGE.

The above inquiry should be a valuable [illegible] those interested about to advertise in the Inter-Mountain Farmer and Ranchman. There are many readers who desire the information asked for by Mr. Dodge.

When Is a Lamb Fat?

It is likely that owing to the advance of the prices in corn, oats and other sheep foods, there will be a great many lambs marketed from now on in a half-fat condition. As the condition of the lamb has a marked influence on the price that may be obtained, it will be well for those who have an abundance of feed to finish properly their lambs—to use every effort to get them into as prime condition as possible, writes Joseph H. Yoder, in the Ohio Farmer.

Even those who make a study of the market find that they very often overrate the condition of the lambs until they get them on the market with others that are better, and then they forcibly feel the criticism of the commission men, that "they are not quite fat enough." To have a clear insight into the indications of conditions it will be interesting to trace the progress of the lamb that is fattening. After being put in the stables to feed, about the third or fourth week is reached before the lambs begin to show the influence of the good food they are receiving. During this time it seems as if they are simply getting into condition to put on flesh. It appears that during this interval more or less fat is being deposited internally. At about the end of that time many of the lambs may be noticed standing listlessly in the sun in a partially stretched posture. This is a pose for a lamb that delights the shepherd more than any other. The lambs are quiet and seem to [illegible] more than usual.

The fattening process seems to extend from the internal regions and is first in evidence at the tail. It then passes along the back over the shoulders to the neck. From this line it seems to extend down the sides and over the breast in front. There are five main points at which its extension seems most in evidence—at the tail, middle of the back, the neck, the flank, the purse and the breast. Judges of condition handle these different points and seem to arrive at the same conclusion from continued practice in observing the development in any one of them. By feeling the tail-head some will form their opinion as to the degree to which the lamb is fat. Many after feeling the tail grasp the back and base their opinion on the fullness of that part. The flank and breast are often used as further assurance, and some butchers estimate the condition from the fullness of the purse. At any of these parts, more especially the back, the covering should be such in the prime lamb as to prevent one from feeling the sharp projections of the backbone. In fact, it can hardly be said that a lamb is well prime unless, instead of a projection of the backbone, there is a distinct trough running from the tail to the shoulder. All lambs do not fatten as smoothly or as uniformly as here indicated. In most lambs, however, the worst defect is bareness of the loin and lightness in the hind quarter. With these parts well covered and fully developed, a rather sharp shoulder and peaked brisket will be overlooked. Not only should the flesh be even and thick over the valuable cuts, but it should be firm.

It is certainly advisable for any one feeding sheep to handle them from time to time, so as to be fully aware of their condition. It will be found in large lots that some of the lambs will be ripe for market at least a month before the others, and when this is true it is best to draft out these and get them to market as soon as they are ready for it. This gives the others a better chance and it prevents those that are doing well from getting overripe.

Tuberculosis in Swine.

At a recent meeting of stockmen in Lincoln, Neb., Dr. S. Stewart of Kansas City discussed swine tuberculosis. He declared that the disease was produced by a germ of extreme minuteness. When lodged in the tissue of the body it multiplies very rapidly and sets up inflammation in small areas, which are called tubercles, and these tubercles placed one on top of another making the masses of disease tissue, which may be recognized by the casual observer.

This germ and the disease it produces seems to be distributed over the greater part of the world, particularly among the civilized nations, and infects man and all domestic animals. It has not been recognized that swine were particularly subject to this malady, but closer study shows that the prevalent idea is not correct, the swine herds of Nebraska and Kansas becoming infected and observation extending over two years shows that the malady is on the increase. Hogs of all ages are subject to it, and the disease runs its course rapidly, comparatively, in young swine.

The disease seems to be propagated by contact with infected animals and by the consumption of diseased meats and perhaps also the sputum of diseased people. The disease manifests itself most frequently in the throat, and next most frequently in the intestines; after these come the lungs and external parts of the body. Infected animals do not show any pronounced symptoms until the disease is well advanced, hence the difficulty to detect it early.

When developed in the throat, coughing and difficulty in swallowing with swelling in the region of the neck are the most prominent symptoms. If the infection be through the bowels, then the intestinal disorders are observed. The disease runs a much more rapid course in swine than in cattle or man, usually not exceeding five or six months, when the animal dies from lack of nutrition and poisons produced by the disease.

The study of this disease is of economic importance to breeders, because it soon destroys choice herd animals, and is promptly communicated from infected to healthy animals. About 1-10 of 1 per cent of the swine marketed in the markets of which Nebraska is tributary are found to be infected, and the packer must buy the swine a trifle cheaper to protect himself from this loss. As the average life of swine under present conditions is comparatively short, owners of infected herds can best eradicate the disease by slaughter, and then the exercise of care in the recruiting of their herd. The flesh of tuberculous animals should undoubtedly be eliminated from our food supplies.

Skim-Milk Calves.

The skim-milk calf has come to stay. Men have learned by experiments, and by careful feeding, that skim-milk is the cheapest and best for a calf, especially for the dairy calf. The greatest trouble is the danger of overfeeding. Most people seem to think that because skim-milk isn't very rich they must give the calf lots of it, so they pour it down him by the bucket, without stopping to think what a calf's stomach is like, and the result is that they soon have a lot of "pot-bellied" calves, writes J. L. Smith in the Kansas Farmer.

When the calf is a few days old he is taken away from the cow and put into a pen or shed to be taught how to drink skim-milk. Then the fun commences. If the calf will not drink the milk right off, and is a little stubborn, the fellow who is trying to feed him usually gets mad, jumps straddle of the calf's neck, backs him up in a corner, grabs hold of the calf's head with both hands and rams it down in the milk to the bottom of the pail, then the calf gets mad and bawls, and tries to get away, gets strangled and finally succeeds in spilling the milk.

It is best to have a little more patience with the calf and remember that it does not have very much sense at first. After it has sucked the cow two or three times it should be taken away and put in a good clean pen and fed on its mother's milk for a week or two. Then begin to gradually reduce the whole milk and add a little skim milk each day, until within a couple of weeks it will be on skim-milk alone. A good substitute for the fat removed is a little corn-meal given after drinking. This will also keep them from sucking each other. Over-feeding, irregular feeding, or feeding cold, sour milk is very apt to cause scours with the calves.

To feed skim-milk fresh from the hand separator on the farm is the best way, because it is always warm and sweet. The skim-milk from the creamery is all right, but in warm weather it will not keep sweet very long unless it is sterilized well and thoroughly cooled when brought home.

Skim-Milk as Feed for Hogs.

I regard skim-milk as a valuable part of the hog ration, worth at least 30 cents per hundred pounds, when mixed with grain either whole or ground, writes J. H. Crowley in the Kansas Farmer.

That is, if a dollar's worth of feed be used for hogs, 35 cents' worth, or 100 pounds of skim-milk, would make the ration more valuable than if the whole dollar was used for grain with only water instead of skim-milk. This skim milk keeps the hog healthy, and, therefore, thrifty, preventing constipation and its attending evils, especially swine plague or hog cholera, the dread of all farmers raising hogs. In fact, I cannot recall a case of hog cholera or other disease among hogs where skim milk formed a good part of the hog ration. I have in mind notably the case of one of our station patrons who recently sold a nice, thrifty hog on this market weighing some 4[illegible]0 pounds, fed and raised wholly on skim-milk from this station, which shows that we can make porkers equal to the best grain-fed and more healthy than those fed on grain alone. If this result of feeding skim-milk can be obtained in one instance, why can it not be obtained in many and by any farmer?

How to Breed Sound Horses.

Before an English farmers' club Dr. F. L. Clunes, member of the Royal College of Veterinary Surgeons, gave an interesting address on the above subject recently. He said the first essential to rearing sound stock was to start with sound parents. Going on to deal with the hereditary unsoundness to be avoided, he specified cataract, roaring, splint, ringbone, side-bones, navicular disease, spavins, stringhalt and shivering, curbs and sandcracks. The most particular thing in breeding was to have good feet, because they could always put the top of a horse on. One of the causes of unsoundness in England was that anybody was allowed to travel with a stallion without a certificate, whereas on the continent traveling stallions had to be examined by veterinary surgeons. To get sound, healthy stock they must breed from young mares, and it had been amply proved that if they wanted size they must have it in the mare. Defects in a mare should not exist in a stallion also, or the colt would possess them in an exaggerated form. If the mare had small feet, for instance, the stallion should have good big feet. The question of shape must be considered as well as unsoundness, because it did not follow that because a horse was sound he was good-looking. What was wanted in any class of horse was a square animal, like a billiard table, with a leg at each corner. He did not think soil and situation made very much difference, but the best land was that on limestone. It was a great mistake to have too many mares breeding on any farm, because it was well proved that after a few years the stock began to get smaller and the constitutions of the animals weaker. He next dealt with the care of mares, treatment in foaling, the diseases of foals, and causes of unsoundness in perfectly sound colts, due to carelessness of the owner, breaker or wagoner. Horses should not be worked too soon; if colts were allowed to run twelve months longer, very often a much greater value would be obtained for them. He considered the breeding of big harness horses to be the most remunerative branch of breeding.

Official Records of Guernsey Cows.

The January issue of the Herd Register and Breeders' Journal of the American Guernsey Cattle club contains the first entries in the advanced register of Guernsey cattle. The register admits only animals who make records under conditions established for the work. These conditions require that all records must be supervised by some agricultural experiment station. The records of twelve animals appear in the January issue, and are as follows:

Glenwood Girl 6th, year's record, 12,187.22 pounds milk, 572.2 pounds butter-fat; Primrose Tricksey, year's record, 506 pounds butter-fat; Lucretia's Daughter, year's record 11,094.82 pounds milk, 493.[illegible] pounds butter-fat; Lucretia of Haddon, year's record 467.8 pounds butter-fat; Glenwood Girl 5th, year's record 11,328.15 pounds milk, 467.5 pounds butter-fat; Gypsey of Racine, year's record 482.5 pounds butter-fat; Lady Bishop, year's record 394.5 pounds butter-fat; Lady Benjamin, year's record 390.9 pounds butter-fat; Glenwood Girl 7th, year's record 387.1 pounds butter-fat; Nounon, year's record 382.[illegible] pounds butter-fat; Queen Deete, seven-day record 16.22 pounds butter-fat; Mentor Maid, seven-day record 16.04 pounds butter-fat.

In all records made for the advanced register only the butter-fat and milk are considered. The conditions for entry require that all animals must give at least 6000 pounds of milk or 250.5 pounds of butter-fat in a year, or ten pounds of butter-fat in seven days if the record begins the day the animal is over two years old. For every day the animal is over two years old when her record begins, the requirement increases by a constant ratio until the animal becomes five years old, when the requirement will have reached 1000 pounds of milk or 360 pounds butter-fat in the yearly class and fifteen pounds of butter-fat for seven days' record. It then remains for all animals over five years of age. For the purpose of converting the butter-fat records into their equivalent of butter, the register recognizes the rule adopted by the agricultural experiment stations, that is, add one-sixth to the amount of butter-fat. The club for the purpose of recording the actual working of the cows, and as it is generally accepted that a cow's work ceases when she has given the milk which contains the butter-fat, it was decided to have the advanced register on a milk and butter-fat basis only.

Improving Oats.

The plan of improving the quality of oats carried on by the Illinois Experiment station is to select from individual strong plants in the field the seed and sow it in a separate plot the succeeding year. In this way the strong, healthy plants are preserved and the poor and weak plants are weeded out of the variety. If the oat breeder will go into the field as the plants are passing from the milky to the doughy stages he can easily select those plants which are free from disease and are particularly strong and healthy. The smut in the oats can be prevented by treating the seed with formalin or hot water.

Oats do not mix excepting in a short distance, and by placing the plots of oats twenty rods apart all danger of mixing will be avoided. In fact, we have found that when varieties have been grown side by side that mixture has taken place only a few feet in the field.

The stalk of oats and the character of the stalk will vary with the locality and conditions of the soil and climate in which the oats are grown. The oat plant is adapted to Northern conditions. In order to begin breeding any variety I believe that it will be a good plan to secure seed from some northern locality and by selecting the best plants from the field of such seed at the time of harvest, threshing them separately and sowing in a separate plot or field, any improvement or change desired can be effected.—A. D. Shamel, in Breeders' Gazette.

Fumigation Necessary and Profitable.

In a large orchard of small trees this would probably prove, in spite of the considerable cost of the tents, cheaper in the end than spraying. The trees on which the writer experimented suffered no injury beyond the slight browning of a few of the more advanced buds on several trees. The records of these experiments shows that fumigation with hydrocyanic acid gas practically means the annihilation of the scale, even when but one ounce of cyanid to 150 cubic feet of space is used. The very few living young scales found on some of the trees could easily have been, and probably were, brought after the fumigation from adjacent infested trees.—Dr. E. P. Felt, State Entomologist, New York.

I am satisfied that the fumigating work for some of our nurseries cannot be surpassed in the world, and as a whole, the certified nurseries in Florida rank high in this respect. No certified nursery is without a fumigatorium.—Prof. H. A. Gossard, Entomologist Florida Experiment Station.

In fumigation, as in other things, the best results with the least expense are obtained only by rigorous attention to details. The object sought is to subject the trees and plants to the action of the hydrocyanic acid gas of sufficient density and for the time required to destroy all living insect parasites in any stage of development, from the egg to the parent, during the hatching season. The penetration of hydrocyanic acid gas to every part of the tree and plant except below the surface of the ground, and its fatal effects, not only on the larvae and the mature insect pests, but even on the eggs, is one of its advantages over the spraying process, which cannot be applied with entire success to trees bearing dense foliage.—C. M. Heintz, California.

R. G. Chase stated to me that the expense to their firm for the fumigation of first-class nursery stock did not exceed 25 cents per 1000 trees, including everything. Every box of trees they ship is labeled to announce that fact.—T. L. Yeomans, President New York Fruit Growers' Association.

Better Tillage.

Thorough tillage should be the watchword of every farmer. It is absolutely impossible to grow an abundantly large crop without frequent and thorough tillage. How often do we see, in the springtime, a field ploughed and planted and afterward most terribly neglected as to after cultivation. What is the result at harvest? Not enough to pay for what little cultivation has been done. What would have been the result with frequent and thorough cultivation? Probably a very satisfactory crop, one that would have paid well for growing.

Would it have been possible for Mr. George M. Clark of Higganum, Conn., to grow 39,500 pounds of cured hay on seven acres of land, as he did the past season, if he had not the soil most thoroughly stirred and pulverized? It would pay any farmer to send a stamp to Mr. Clark for his experience on grass culture. On my own fields I have always been in the habit of putting more labor onto them in the form of careful ploughing and thorough harrowing than do most farmers of my acquaintance, and am well satisfied that it pays one to do so.

The person who tends his garden in the most thorough manner very well knows that he secures a fine crop. Then why not carry this very same tillage to the field. Will it not pay there equally as well as in the garden?—F. H. Dow, in Farm, Field and Fireside.

We are Eating More Beef.

George M. Rommel, expert in the animal industry bureau of the Department of Agriculture, addressing the annual meeting of the Central Shorthorn association in Kansas City, made the statement that Americans are now eating more beef, comparatively, than ever before, and less pork and mutton. Continuing, he said there were more cattle in the country now in proportion to population than ever before, and that the supposition that the number of beef cattle was growing smaller has been based on estimates that must have been very far from correct.

Mr. Rommel said that the number of beef cattle, not including dairy stock, has shown a steady increase for the past fifty years, a fact that was a cause of great surprise to the Department of Agriculture. In 1850 there were, he said, 491 beef cattle to every 1000 persons, while now the proportion was 661 to 1000.

To Prevent Robbing in the Apiary.

As the time of robbing is when the honey flow is short, and hardly ever when flow is full, this is the time to watch for indications of marauders. A queenless colony or one weak in brood will not fight much for their stores. Italians are better defenders than common black bees. Colonies wintered indoors are more liable to be robbed than those outdoors. Contracting cracks and entrance so that only one bee can get in or out at a time will aid a great deal, as they will be able to protect themselves in this way. With a little close attention you can detect robbing bees. They fly with legs widely spread and are very cautious about the entrance. They also have a low soothing hum. You can tell if they are your bees or your neighbor's by sprinkling some flour on them at the entrance and then watching the other hives to see if any bees with flour enter.

If you find them fighting hard, close the entrance somewhat and if the owners have much strength they will protect themselves. If bees are going in and out tumbling over each other you have a case of robbing that has got under fast headway and you must resort to extreme measures at once. Close up the hive entirely and securely. In this case if the weather be quite warm danger of suffocation will follow unless you have an opening covered with wire cloth large enough to ventilate. A better way is to cover an empty upper story with wire cloth, securely fastened down. But sometimes this does not stop them, as the robbers inside will communicate with those on the outside and pass [illegible] through to them. By watching you need not allow robbing to reach such an advanced stage. Even then by using two pieces of wire cloth about half an inch apart over the opening, you can fool them. After bees have been shut up thus the best time to let them out is at sundown. Then get up early and see if they are all right.

There are many so-called cures for robbing, but the best is prevention in time. A strong colony having once gained headway will destroy another in from four to ten hours and this is not the stopping point. When once they succeed they do not seem to hesitate to tackle the strongest colony in the yard. Do not tempt them to robbing by leaving partly exposed honey around and by careless feeding. The chief things are neatness and care about yard and honey house. Do not let dead colonies remain on stands but remove them at once to some safe spot and keep your eye on the colonies when robbing might be expected.—G. H. Townsend in Orange Judd Farmer.

Preventing Apple Scab.

This fungous disease has been discussed several times in bulletins sent out by the Illinois experiment station. It is so destructive that bulletin 67, just issued and prepared by George P. Clinton, is devoted entirely to the discussion of the injury caused by the scab, preventive measures, methods of infection and a large number of illustrations showing the disease in different stages of development.

In suggesting preventive measures, Mr. Clinton states that injury from scab can be stopped largely by proper attention in spraying. Bordeaux mixture has been found to be the most valuable fungicide. The present tendency is to use it made as follows: Copper sulphate, four pounds; lime, four pounds; water, fifty gallons. The copper sulphate may be dissolved in hot water, the lime slaked in a suitable quantity of water, the two being mixed together and strained into a barrel containing the remaining amount of water. Much of the success in the use of this fungicide depends upon the proper application and the time of spraying.

The trees should be thoroughly sprayed. The first application should be made soon after the leaves begin to unfold, followed by a second soon after the petals begin to fall and by a third in less than two weeks if the season has been favorable for the development of scab. Later sprayings are apt to burn the foliage and russet the fruit and so are not very desirable. Some writers advocate two sprayings before the petals fall, the first with the swelling of the buds and the second after the leaves have expanded but before the petals are open. Winter spraying with a strong solution of copper sulphate has also been found to retard the first appearance of scab, but it is questionable if it is worth the extra expense and trouble, provided the first treatment with bordeaux mixture is made promptly and thoroughly. In case the codling moth is injurious, paris green, at the rate of one pound to 200 gallons of the bordeaux mixture, may be added for the second and third sprayings.

Besides, proper attention should be given to pruning, as [illegible] pruned trees afford greater protection against quick evaporation of moisture and just so far favor infection by scab. The same holds true of proper cultivation, since orchards neglected in this respect offer greater protection to the fallen leaves, which are the means by which the permanent stage develops and produces infection in the spring. No careful experiment of raking together and burning all of the fallen leaves from an orchard has been carried on and so nothing definite can be said of the advantage of this procedure. However, in a small plot in an orchard from which the leaves had been so removed the first appearance of scab on these trees seemed to have been retarded and reduced. Such work to be of any value should be done very thoroughly in the autumn after all of the leaves have fallen.

GARDENING AND TRUCK FARMING.

For successful gardening or truck farming four things are essential. First, a soil, easily worked and rich soil; second, an abundant and continuous water supply; third, a location which will insure reasonable freedom from late spring and early fall frosts, and fourth, a good market. With these four requisites gardening will pay better than any other form of agriculture of which I know, not even excepting fruit-growing under the best of conditions. But it must be remembered that the perfect conditions for gardening are very rarely to be found, even in Utah, the best of all States for this business, and he who would engage in truck farming must choose carefully his location or all his most intelligent and best directed labors will be in vain. Vegetables are mostly very shallow rooted and derive most of their living from the surface soil. For this reason the soil must be of such a nature as to be easily worked into a fine tilth, must retain moisture well, and the surface must be well enriched. Nearly any soil can be made rich enough, but no soil is rich enough for the best results in its natural state.

It will take a liberal application of stable manure, thoroughly worked in each year for about three years, to bring a piece of ordinary land up to its best producing condition, although fair crops can be raised, of course, meantime. It is very important that the land should be made to produce its very utmost, for a garden requires a great deal of labor on a small piece of ground, and the land which will produce great crops will require no more labor than that which will produce half the amount. Many gardeners are succeeding well on low, rather wet land, but they have to make a specialty of a few crops, such as onions, cauliflower, cabbage and celery, while the gardener who has higher, warmer land can raise all these and many things besides, such as tomatoes, egg plant, melons, etc., if he has sufficient water supply. The best water supply for a garden is that from a spring or flowing wells. The large stream turned from the ordinary irrigating system is very hard to manage, is liable to wash the soil too much away from the plants, and frequently can not be obtained often enough for garden crops and can not be applied long enough at a time. The small stream long drawn out and applied for four or five hours at a time every eight or ten days is what counts in a garden. Of course some crops will require water much oftener than others, and it is absolutely essential to have water that can be applied just when the crops need it for the best results. The gardener will do best who is so located that he can raise the greatest variety. A piece of soft, rich soil at the mouth of a canyon, where the canyon breeze will keep off the frost, and watered by a spring belonging to the land, is the ideal location for a truck farm if it happens to be near a good market.

Happily, while the first three conditions are not easy to find in the proper combination anywhere, the fourth, the market, is not hard to find in this State. As a rule everything a gardener can raise will be taken from his door at good prices by peddlers who trade in the mining camps.

The man who depends on this market should raise the greatest variety possible, as the peddlers, as a rule, take but a little at a time of any one thing, but like a large variety. The large towns afford a good shipping market for some things, such as cauliflower, cabbage, celery, etc.

If choice vegetables are grown, carefully selected and packed carefully a great many things can be sold in Salt Lake at good prices which many gardeners suppose to be unsaleable. The home market in the small towns is also much better than many suppose. The writer sold most of his produce the past season to peddlers, but when anything of any kind was left over it was taken to the market town and peddled out. I never yet failed to "sell out" at good prices, often getting nearly as much for my goods as the peddlers received for the same things hauled from the same town to mining camps forty or fifty miles away.

Your sales will depend largely on the appearance of your goods and the amount of hustling you are willing to do to find the people who want to buy. The experience of the writer has been that the larger crops you raise and the larger the scale on which your gardening is carried on the better your market will be. As to the profits, under ideal conditions garden crops should yield from $100 to $600 per acre. I have known one measured acre of ground to produce over $600 worth of onions for two years in succession. Cauliflower should yield $400 per acre. From thirty-nine square rods of land the writer saw dug 164 bushels of early potatoes, the past season, which were sold for $2 per bushel for seed, or at the rate of over $1250 per acre. These things show the possibilities of the truck business under conditions such as we find in Utah. The life of the gardener is also one of the pleasantest on earth. While it calls for long hours and hard work through all the planting and growing season, the gardener to be successful must love his work and it will always be a pleasure to him. A gardener can not keep very much stock, and while he can find plenty to do, he is not tied to his work as closely as the general farmer or stockman, but will have plenty of time for reading and study or such recreations as may most appeal to him. So he who is fortunate enough to be able to secure the best conditions for truck farming will find his occupation as lucrative and much more pleasant than any other branch of agriculture.

J. R. NEWTON.

Mapleton, Utah.

Potato Culture.

It is an old and true saying that the farmer must feed us all. It is, therefore, necessary to enlighten and help him along. This is the duty of people who have had experience. Potatoes are a vegetable that most people cannot do without. It is therefore necessary to know how to grow them in large quantities at the least labor and expense. Potatoes should be planted as soon as the frost goes out of the ground for good, in land well fertilized and just a little gravelly to give the best results. I have found that when planted this way they do well. Manure the land after picking the potatoes, harrow or plough it under, let it lie all winter, and in the spring harrow it well again. Then, when the potatoes are ready to plant, mark it out. Take a wagonload of sheep manure and cover the bottom of the drills a quarter of an inch deep, not any more, or it will rot the potatoes. Do this before planting, and cover them up before the manure has had time to dry out. The drills should be about one foot apart and the potatoes about thirteen inches apart. They usually come up on the sides of the drills. This can be overcome with a plough, at the same time killing the weeds. Cut the potatoes in pieces, according to size and eyes. Be sure to have one eye and not more than three. Do not cut until ready to use. Never irrigate the land or let water stand on it in the winter; it will make it lumpy and rough. Irrigate the potatoes when the vines become a very dark green, and never let the ground get so wet that it will make the drills soaking wet, or it will spoil your crop. If the water is turned on at night let only a small quantity run into the rows. It will water them much better and there will be no danger of drowning. Follow these rules and you will raise a good crop, unless all is against you. J. C. W.

THIS GOOSE WAS A TERROR.

Pennsylvania Village Wrecked by the Depredations of One Lone Fowl.

There's lots of trouble in the little village of Brookdale, Pa., and it's all on account of the disorderly conduct of a wild goose owned by the Widow Simpson. The widow bought the fowl from a hunter when it was a yearling, and has since been trying to make a pet of it, with very disastrous results. There's one thing that the people of Brookdale pride themselves on, and that is the well-kept lawns in front of their homes. Widow Simpson's goose has a taste for tender grass and, after destroying the pretty plot at her cottage, made predatory raids on the neighbors' lots. This started the trouble and the Widow Simpson, from being one of the best-liked women in the community, became the most hated.

The goose seemed to realize that it was heartily hated by its owner's neighbors, and that a demand had been made for its death, with which the widow refused to comply. The fowl then began a persistent series of attacks upon the people who wanted it put out of the way. It bit and seriously injured a 4-year-old girl, tore down the family washings and dragged the clean clothes in the mud, and made raids on poultry yards, killing off the young chickens by the score. It became such a terror that the people of Brookdale organized into a vigilance committee and started out to kill it. Volley after volley was fired at the goose, but it seemed to bear a charmed life and escaped unhurt, flying out of range of the buckshot fired at it, and screeching defiance to the men and boys who sought to kill it.

One result of the vigilance committee's raid was the killing of a calf by one of the men who shot at the goose. The owner of the calf presented a bill for $17, which the unlucky goose-hunter had to pay.

About a quarter of a mile from Widow Simpson's home is the village school, presided over by a young woman teacher, who has some thirty little boys and girls under her charge. Last Monday morning the goose flew in at the front door of the schoolhouse and began to make things lively. Knowing the evil nature of the fowl, the teacher and her pupils were badly frightened at its appearance. It began operations by grabbing a book out of a child's hand and tearing it to pieces. The teacher, armed with a broom, and some of the bolder pupils, with rulers, made a combined attack on the intruder, but it scared them off and inflicted a number of severe injuries on them, including a bad cut on the teacher's face, made with a stroke of its powerful wing. Finally, seeing they were no match for the belligerent goose, teacher and pupils fled, leaving it in possession of the room.

Help was summoned, but when it arrived the goose, with a loud squawk, flew out of the doorway and winged its way to the woods, since which time it has not been seen. The interior of the schoolhouse presented a scene of wild wreckage. The floor was strewn with torn books, desks were upset, ink bottles spilled and a number of panes of glass broken. It cost nearly $25 to repair the damage, and the school trustees talk of suing the Widow Simpson for the amount if the goose comes back.—Correspondence Chicago Inter Ocean.